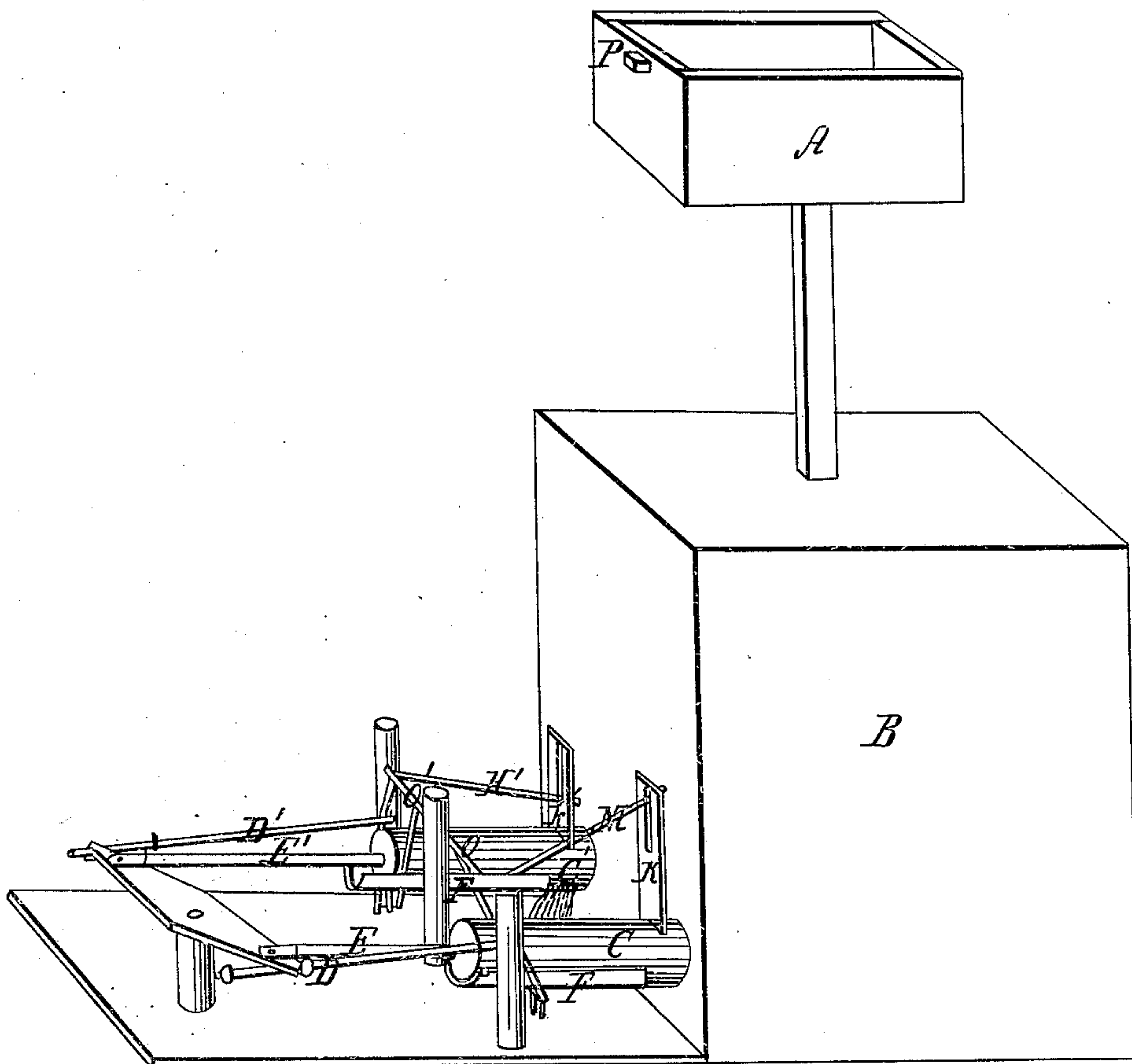


L. M. Sabin,

Hydraulic Engine.

N^o 69,591.

Patented Oct. 8, 1867.



Witnesses;

L. M. Eccles

Charles H. Chapin

Inventor;

Luther. M. Sabin

United States Patent Office.

LUTHER M. SABIN, OF ST. LOUIS, MISSOURI.

Letters Patent No. 69,591, dated October 8, 1867.

IMPROVEMENT IN HYDRAULIC ENGINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, LUTHER M. SABIN, of the city and county of St. Louis, State of Missouri, have invented a new and useful Machine for Applying Water-Power; and that the following is a full and exact description of the same, reference being had to the annexed drawing.

The nature of my invention consists in so constructing two pistons as to apply the hydraulic pressure to machinery.

Letter A is a small vat, connected to the vat B by means of a pipe, and furnished with an escape pipe, P. This vat may be any distance from the lower one, B, and may be supplied with water by a "hydraulic ram," or in any ordinary way. C C' are cylinders, entering the vat B. E E' are pistons for said cylinders. M is a cross-piece or lever, working on a pivot. D D' are bars to work the valves with, and are furnished with shoulders where they enter the lever M so as to work the valves, and attached to the cross-bars O O', which work in the upright pieces or standards. H H' are bars, fastened to cross-bars O O' and to the valves K K', and also underneath, to the valves F F', is a bar running from the cross-bars O O' and fastened to them by pegs.

Now, let the vats be filled with water, and the piston E will be driven out while the piston E' will be driven in, the water being shut off the piston E' by the valve K', and let to escape by the valve F' being withdrawn from the orifice. At the same time the piston E is driven to its extremity, the valve K is shut down, F is opened and K' is opened and F' is shut down, so the pressure acts on the piston E'—so, *vice versa*. Machinery may be applied to the lever M or directly to the pistons E E'.

1. I claim the combination of vat A and pipes, vat B, and cylinders C C', pistons E E', rods D D', lever M, valves F F' and K K', and rods H H', as above named and described, and for the purposes set forth.

2. I claim the combination of cylinders C C', pistons E E', bars D D' and H H', valves F F' and K K', and lever M, as above named and described, and for the purposes set forth.

LUTHER M. SABIN.

Witnesses:

M. M. ECCLES,

CHARLES H. CHAPIN.